Returns Process

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Contents

1 Preface 3

1.1 Purpose 3
1.2 Scope 3
1.3 Disclaimer 3
1.4 Related Documents 3

2 Warnings and Notices 4

2.1 Electrostatic Precautions 4
2.2 Serviceable parts 4

3 Introduction 5

4 Returns Process 6

4.1 Process Flow 6
4.2 Initial Consultation ① 7
4.3 Return of System ② 7
4.4 Fault Verification ③ 8
4.5 Repair and Return ④ 9
4.5.1 ForthDD Liability 9
4.5.2 Customer Liability 10

5 RMA Request Form (RRF) 11

6 Fault Analysis Report (FAR) 13

7 Revision History 15

8 Contact Details 16

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1 Preface

1.1 Purpose

This document defines the process a customer should follow if they believe they have a faulty system. The steps and responsibilities involved in a return are given.

1.2 Scope

This document details the return process for microdisplays and electronics.

1.3 Disclaimer

Please refer to the disclaimer on the last page prior to reading this document.

1.4 Related Documents

Table 1-1: Related Documents

No.	Document No.	Description
1	UM0004	SXGA Microdisplay Handling Guide
2	UM0012	WXGA Microdisplay Handling Guide
3	N/A	http://www.forthdd.com/support

These documents are referenced throughout this document using square brackets.

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2 Warnings and Notices

The user should observe all of the precautions and warnings given in the *SXGA Microdisplay Handling Guide* [1] or *WXGA Microdisplay Handling Guide* [2].

2.1 Electrostatic Precautions

CAUTION
SENSITIVE ELECTRONIC DEVICES
DO NOT SHIP OR STORE NEAR STRONG ELECTROSTATIC, ELECTROMAGNETIC, MAGNETIC OR RADIOACTIVE FIELDS

The microdisplay and associated hardware contain ESD (Electro-Static Discharge) sensitive devices. Electrostatic charges as high as 4kV readily accumulate on the human body and test equipment and can discharge without detection. Although ForthDD products feature ESD protection circuitry, permanent damage may occur on devices subjected to high-energy electrostatic discharges. Therefore, proper ESD precautions are recommended to avoid performance degradation or loss of functionality.

For further information regarding ESD handling precautions refer to:

IEC 61340-5 Part 1&2 - Protection of electronic devices from electrostatic phenomena General Requirements.

2.2 Serviceable parts

The product contains no user serviceable parts and it is recommended that you do not attempt to disassemble it; otherwise the warranty may be invalidated.

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3 Introduction

Forth Dimension Displays (ForthDD) have developed a process for the return of systems[1] which are thought to be faulty. This document details the steps a customer should undertake if they believe they have a faulty system, and how ForthDD will respond, from the initial reporting of the fault by the customer through to any repair work and return of the system to the customer.

[1] Note that the term "system" is used throughout this document to refer to displays, electronics or a combination of both.

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4 Returns Process

4.1 Process Flow

A simplified flow chart detailing how the returns process flows is shown in Figure 4-1. The chart is split into four sections, which are discussed in the following sections of the document. Note that the chart does not show all the detail of the process and is therefore not a replacement for the text in this document.

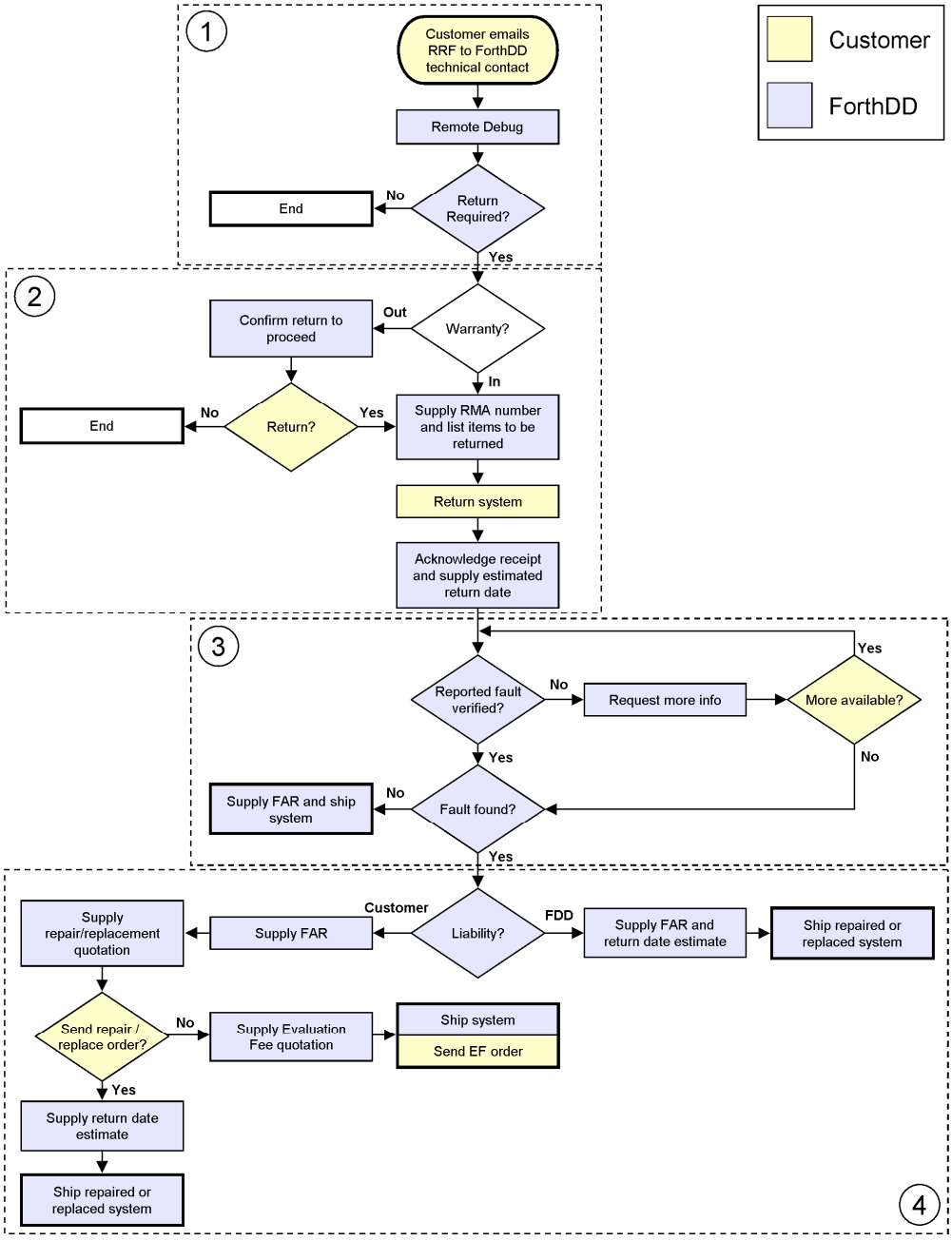

Figure 4-1: Returns process flow chart

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The returns process sections, as shown in Figure 4-1 are:

1. Initial Consultation
2. Return of System
3. Fault Verification
4. Repair and Return

4.2 Initial Consultation ①

All faults reported by customers must be made using an RMA Request Form (RRF) (see section 5). This form is available for download from the ForthDD Applications Support Centre [3] (if you do not have a login for this site then please check, before contacting your technical or sales contact within ForthDD, that one has not already been issued to someone in your company, as only one login is supplied per company).

Once completed, the RRF should be emailed by the customer to ForthDD's supporting Application Engineer[2] (AE), copying the customer's sales representative (if sales are made via a representative).

The AE will consider the issue and, in some cases, discuss the reported fault with the customer in an attempt to solve the issue remotely or obtain more information about the issue. If the AE determines that the system should be returned, the process moves on to process section②: Return of System.

4.3 Return of System ②

Based on the information supplied on the RRF, ForthDD will be able to determine whether the system is in warranty or not. If the system is not in warranty, the ForthDD Applications Administrator (AA) will inform the customer that the item is not in warranty and confirm whether the customer wishes to proceed with the return. In some cases, an evaluation fee (EF) may be applied to returns and the AA will supply details of what the current EF value is (when EFs become applicable is discussed in sections 4.4 and 4.5). The customer can then decide whether to proceed with the return or not.

It may not be necessary to return a complete system. For example, if the problem is with the microdisplay then it might be determined that only the microdisplay should be returned. However, for some issues, even if the fault appears to be with the microdisplay, the whole system might need to be returned in order for ForthDD to undertake a full assessment of the problem. The AA or AE will inform the customer what should be returned and will supply the customer with an RMA number.

[2] If the company has not had contact with a ForthDD AE, the general technical support email address should be used: tech-support@forthdd.com, or use the contact details given in section 8.

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Note: In general, out of warranty displays should not be returned, unless otherwise directed by the AA or AE, as ForthDD **do not** repair displays.

The customer should return the system to ForthDD using their own courier service. The system is under the responsibility of the customer while in transit.

Note: the shipping documentation must contain the following statement: "Goods returned for investigation/repair".

The customer may choose to supply their own reference number with the return as well as using the ForthDD RMA number. Note that the ForthDD number remains the primary reference for the return, although ForthDD will try and use the customer's reference alongside the ForthDD reference wherever possible.

An RMA number is only valid for 30 days. If the system it relates to is not returned within this period the RMA number will expire. The AA will inform the customer when an RMA number has expired. If the customer still wishes to return the system, they will need to request a new RMA number. This can be done by contacting the AA, quoting the system serial number, and previously supplied RMA number (if possible).

The customer must ensure that the returning system is suitably packaged. This is particularly important for the return of microdisplays, as these are particularly susceptible to damage if incorrectly packaged. Ideally, return shipment should be made using the same packaging that the system was originally supplied in. If the customer is in any doubt about the suitability of their packing material they should contact ForthDD. The use of unsuitable packaging could invalidate the warranty.

Once the returned system has been received by ForthDD in Dalgety Bay, UK, the AA will acknowledge receipt of the system and supply an estimated completion date for the return. It is the aim of ForthDD to complete[3] the return of a system within 10 workings days of receipt at the ForthDD facility in Dalgety Bay. This may not always be possible, particularly in the case of systems that need to be repaired. If there is a delay in the return of a system the AA will supply an updated expected completion date.

The customer should contact the AA with any requests for updates on the progress of a return.

4.4 Fault Verification ③

After return, the system will undergo fault verification testing to confirm the fault is as reported by the customer and then to determine the cause of the fault.

If the reported fault cannot be verified, the AA will contact the customer to ask for further information on how to recreate the fault.

[3] Completion is considered to be when the system ships back out from ForthDD.

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If there is no fault found (NFF) and the system is in warranty, the system will be returned to the customer at ForthDD expense, in most circumstances. If the system is not in warranty, or excessive return of NFF, in-warranty, systems has occurred, ForthDD may apply an EF to the return. In this case, ForthDD Sales (or the sales representative) will supply a quotation for the EF.

It is ForthDD's policy to upgrade all returned electronics systems (including NFF systems) to the latest factory standard versions of AP code, FPGA code and add new versions of sequences (if newer versions are available for those currently loaded). If the customer does not want this to happen, or has a Configuration Control Note (CCN) in place for the system (in which case, the system will be returned in this configuration), then the appropriate section of the RRF should be completed (see section 5). The configuration of the system (if electronics) will be included in the shipping documentation.

If the system is determined to be faulty, either with the reported fault or a different fault, the process moves on to process section ④: Repair and Return.

4.5 Repair and Return ④

4.5.1 ForthDD Liability

ForthDD will take liability when a system is determined to be faulty and the system is in warranty.

The ForthDD AA will supply a Fault Analysis Report (FAR) for the return (see section 6) and an estimated return date (if the return is expected to run beyond the 10 working days aim).

As mentioned previously, ForthDD do not repair displays, so any faulty displays will be replaced by ForthDD.

ForthDD will repair electronics, unless the fault is so major that the system is considered (by ForthDD) to be beyond economic repair, in which case the system (or part of it) will be replaced.

The AA will email shipping details for the system when it leaves ForthDD. Note that if display and electronics were returned together from the customer then they will generally be shipped back to the customer together from ForthDD.

For electronics, the system configuration details will be included in the shipping documentation so that it is immediately obvious to the customer what the configuration is.

For the cases where the system is replaced, the system that has been replaced by ForthDD will be scrapped by ForthDD.

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4.5.2 Customer Liability

The customer is deemed liable for a returned faulty system if:

a) the system is out of warranty

b) the fault has been caused by the customer (thus invalidating the warranty)

The AA will supply an FAR and ForthDD Sales (or the sales representative) will contact the customer to supply a quotation for the repair work, or replacement system if the system is considered beyond economical repair or is a display. If the customer chooses to have the system repaired or replaced, they will need to place an order with ForthDD Sales or with the representative.

If the system is returned out of warranty, either through lapsing of the warranty period or voiding of the warranty, and the customer chooses not to order a replacement or repair, the customer will generally be charged an EF.

If the customer has not provided an order for the repair or replacement of the faulty system within 4 weeks of the quotation being supplied, it will be assumed that the customer does not want to proceed with the repair or replacement. In this case, an EF will generally be charged and the system will be returned to the customer.

If an order is received, then once the system has been repaired or a replacement has been obtained, it will be returned to the customer and the AA will advise the customer of the shipping details. If the system is to be repaired, and there will be a delay before shipping, the AA will supply an estimated shipping date.

Note that if display and electronics were returned together from the customer then they will generally be shipped back to the customer together from ForthDD.

For electronics, the system configuration details will be included in the shipping documentation so that it is immediately obvious to the customer what the configuration is.

For the cases where the system is replaced, the system that has been replaced will be returned to the customer in the same shipment as the new system and will be listed in the shipping documentation as non-conforming product.

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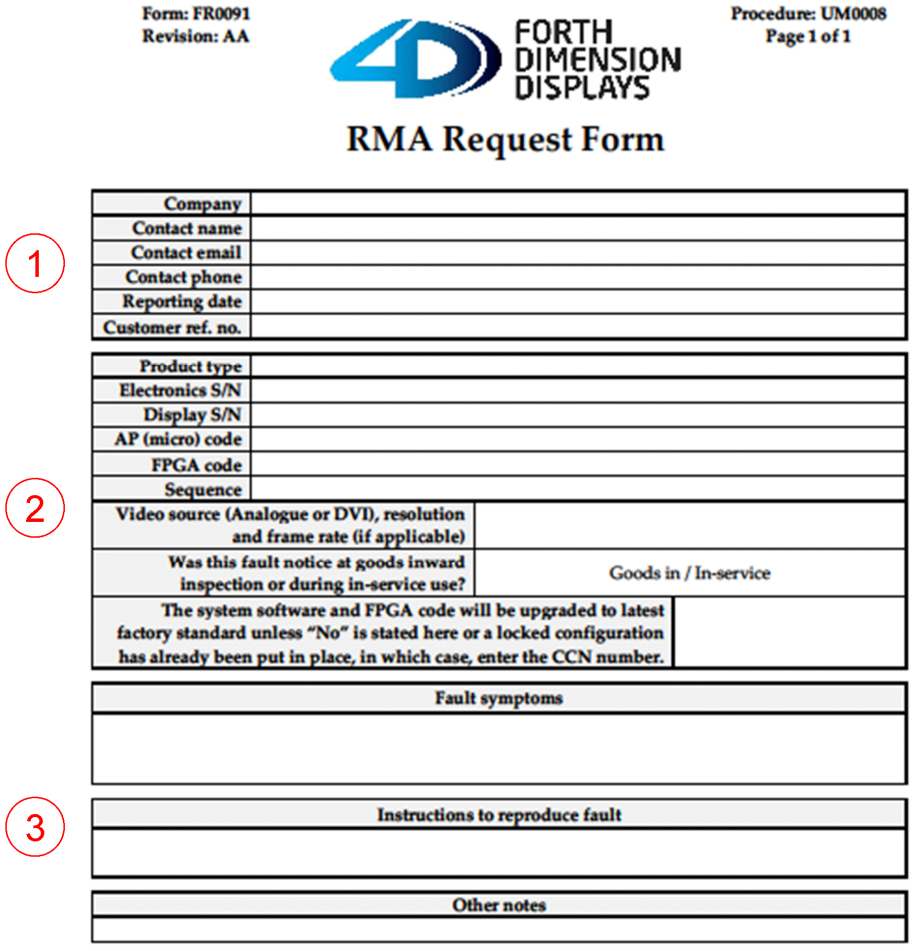
5 RMA Request Form (RRF)

The RRF must be used by customers to report issues they have with systems. Completing the form correctly and fully, with as much detail as possible, will aid ForthDD's engineers and technicians in diagnosing the fault, thus speeding up the whole returns process.

ForthDD will only accept systems back if an RRF is completed in advance of the return and an RMA number has been issued.

The RRF is available to download from the ASC section of the ForthDD website [3].

The RRF is shown in Figure 5-1, with an explanation of what is required in each section given in Table 5-1.



Form: FR0091
Revision: AA

Procedure: UM0008
Page 1 of 1

RMA Request Form

1

Company	
Contact name	
Contact email	
Contact phone	
Reporting date	
Customer ref. no.	

2

Product type	
Electronics S/N	
Display S/N	
AP (micro) code	
FPGA code	
Sequence	
Video source (Analogue or DVI), resolution and frame rate (if applicable)	
Was this fault notice at goods inward inspection or during in-service use?	Goods in / In-service
The system software and FPGA code will be upgraded to latest factory standard unless "No" is stated here or a locked configuration has already been put in place, in which case, enter the CCN number.	

3

Fault symptoms

Instructions to reproduce fault

Other notes

Figure 5-1: RMA Request Form

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Table 5-1: RRF Information

RRF Field	Information required
Section 1	
Company	The name of the company reporting the fault
Contact name	The name of the person reporting the fault. This person will be the contact for all information exchanged as part of the return process for this fault
Contact email	The email address of the person reporting the fault
Contact phone	The phone number of the person reporting the fault
Reporting date	This is the date when the customer emails ForthDD the RRF
Customer ref. no.	*Optional* – the customer may supply their own reference number
Section 2	
Product type	This is the ForthDD product type e.g. SXGA-R2-H1 (if it is a modified version, then the customer should note their project or programme name)
Electronics S/N	The serial number of the drive electronics (if applicable)
Display S/N	The serial number of the display (if applicable)
AP (micro) code	The AP/micro code being used on the electronics
FPGA code	The FPGA code being used on the electronics (if R2 then Dither FPGA code can be noted if known) (if applicable)
Sequence	The sequence being used (if applicable)
Video source…	Whether DVI or analogue video is used and what the resolution and frame rate are (e.g. SXGA 60 for SXGA (1280x1024) resolution @ 60Hz frame rate) (if applicable)
When noticed…	Was the fault detected when the system was first powered up (Goods in) or later (In-service)
Software upgrade…	ForthDD policy is to upgrade the code on the system to the latest factory standard configuration. This will be done unless the customer enters "No" (in which case the configuration will not be changed by ForthDD, unless this is the only way to get the system working again) or a CCN is entered, in which case the system will be returned with configuration as detailed by that CCN
Section 3	
Fault symptoms	Details of how the fault manifests itself. The more detail given here, the more likely ForthDD will be to confirm they can find the same fault as the customer
Instructions…	Any details which specifically describe how or when the fault appears. e.g. the fault only appears when the display is at 40°C or the flexi must be bent a certain way for the fault to appear, no output from connector Jx when a specific item is connected
Other notes	Any other relevant information that the customer can supply about the fault or the system

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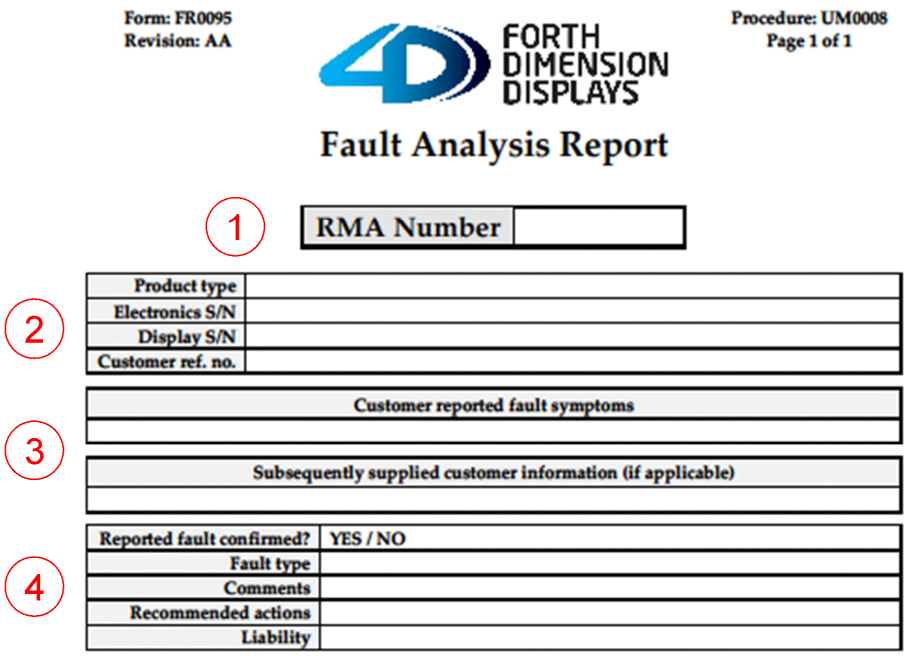
6 Fault Analysis Report (FAR)

The FAR is used by ForthDD to detail information about the return to the customer. The FAR is shown in Figure 6-1. An explanation of each part of the form is given in Table 6-1.



Form: FR0095
Revision: AA

Procedure: UM0008
Page 1 of 1

Fault Analysis Report

1

RMA Number	

2

Product type	
Electronics S/N	
Display S/N	
Customer ref. no.	

3

Customer reported fault symptoms

Subsequently supplied customer information (if applicable)

4

Reported fault confirmed?	YES / NO
Fault type	
Comments	
Recommended actions	
Liability	

Figure 6-1: Fault Analysis Report

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Table 6-1: FAR information

FAR Field	Information required
Section 1	
RMA number	The number associated with the return
Section 2	
Product type	This is the ForthDD product type e.g. SXGA-R2-H1
Electronics S/N	The serial number of the returned electronics (N/A if none were returned)
Display S/N	The serial number of the returned display (N/A if none were returned)
Customer ref. no.	Included, if supplied by the customer
Section 3	
Customer report	The fault report supplied by the customer
Subsequent info	Any information supplied by the customer after the RRF was received
Section 4	
Reported fault confirmed	Whether or not the fault reported by the customer could be reproduced
Fault type	This is the category that describes the fault found
Comments	Any more detailed notes about the fault or investigation work
Recommended actions	Any follow up actions recommended by ForthDD
Liability	This details who has financial responsibility for the return (ForthDD or customer). If the customer is paying an EF or paying for a replacement or repair then the liability is "Customer".

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7 Revision History

DCN	Originator	Date	Description of Change	New rev.
00006	DY	11/2/08	New document	AA
00011	DY	18/2/08	Minor changes	AB
00014	DY	18/3/08	Minor changes to H/C and customer refs	AC
00029	DY	17/10/08	Changes to returning of goods, and issuing of fault reports. Introduction of CRF number expiry.	AD
00100	DY	9/2/10	Major rework of process	BA

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8 Contact Details

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